

We claim:

1. A system comprising:
 - a conveyor operative to convey a metal container having a code stamped into a surface thereof, the code being unique to a path of manufacturing of the metal container;
 - an inspection zone into which the metal container is conveyed;
 - an illuminator operative to illuminate the metal container in the inspection zone;
 - at least one imaging system operative to acquire information on defects and the code; and,
- 10 at least one processor operative to process the information on the defects and the code to generate quality status information relating quality of the metal container to the path of manufacturing of the metal container.
2. The system as set forth in claim 1 wherein the code comprises an orientation fiducial and a unique pattern code.
- 15 3. The system as set forth in claim 1 wherein the code is stamped in a base region of the metal container.
- 20 4. The system as set forth in claim 3 wherein the code is contained within a central circular area in the dome sized so that it does not create ghost images on the sidewall from disturbances to reflections of the illumination source that is illuminating through the opening of the can.
- 25 5. The system as set forth in claim 4 wherein the code is totally contained within an axially centered region in the dome which is circumscribed by a circle approximately 12mm in diameter.
- 30 6. The system as set forth in claim 1 wherein the imaging system is operative to inspect the defects at a first exposure level and to inspect the code at other exposure levels.

7. The system as set forth in claim 1 wherein the imaging system comprises at least one beam splitter, used with lenses and cameras to determine defects and the code by separating reflected light generated by the illuminator into at least two separate images.
- 5 8. The system as set forth in claim 1 wherein the imaging system uses spectral filtering to separate a received image into multiple video images.
9. The system as set forth in claim 1 wherein the imaging system comprises a high-speed camera and a lens to sequentially acquire a defect attribute image and a code image.
- 10 10. The system as set forth in claim 1 wherein the imaging system is comprised of more than one camera to image the defect uniquely from the code.
- 15 11. A method for inspecting metal containers, the method comprising:
 - stamp a code in a surface of a metal container, the code being unique to a path of manufacturing of the metal container;
 - conveying the metal container into an inspection zone;
 - illuminating the metal container in the inspection zone;
- 20 12. The method as set forth in claim 11 wherein the code comprises the fiducial and accumulating quality status control information based on the defects and the code.
- 25 13. The method as set forth in claim 11 wherein the stamping comprises using press-specific die sets.
- 30 14. The method as set forth in claim 11 wherein the forming comprises stamping the code in a base region of the metal container.

15. The method as set forth in claim 11 wherein inspecting the metal container for defects comprises inspecting at a first illumination exposure level and inspecting the metal container for the code comprises inspecting at a second illumination exposure level.

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16. The method as set forth in claim 11 wherein the inspecting of the container for defects and the inspecting of the container for the code comprises using spectral filtering to separate a received image into multiple video images for subsequent processing.

10 17. The method as set forth in claim 11 wherein the inspecting to determine defects and the inspecting to determine the code comprises using a high-speed camera and a lens to sequentially acquire a defect attribute image and a code image.

15 18. The method as set forth in claim 11 wherein the inspecting to determine defects and the inspecting to determine the code comprise separating reflected light resulting from the illuminating into two separate channels using a beam splitter.

19. A system for inspecting metal containers, the system comprising:
means for impressing a code into a surface of a metal container, the code being
20 unique to a path of manufacturing of the metal container;
means for conveying the metal container into an inspection zone;
means for illuminating the metal container which is in the zone;
means for inspecting the metal container to determine defects in the container
and to determine the code; and,
25 means for accumulating quality status control information based on the defects
and the code.

20. The system as set forth in claim 19 wherein the means for illuminating the metal
30 container is comprised of solid state illumination array(s) and illuminates the interior of
the container.

21. The system as set forth in claim 19 wherein the code comprises the fiducial and
a 4-bit binary code.

22. The system as set forth in claim 19 wherein the means for stamping comprises a press-specific die set.

5 23. The system as set forth in claim 19 wherein the code is stamped in a base of the metal container.

10 24. The system as set forth in claim 19 wherein the means for inspecting comprises means for inspecting at a first illumination exposure level to determine defects and a second illumination exposure level to determine the code.

15 25. The system as set forth in claim 19 wherein the means for inspecting comprises means for providing spectral filtering to separate a received image into multiple video images.

20 26. The system as set forth in claim 19 wherein the means for inspecting comprises a high-speed camera and a lens to sequentially acquire a defect attribute image and a code image.

27. The system as set forth in claim 19 wherein the means for inspecting comprises a beam splitter for separating reflected light into two separate images.